

## **REMARKS/ARGUMENTS**

The rejections presented in the Office Action dated February 17, 2012 (hereinafter Office Action) have been considered. Claims 1, 4, 6, 13, 18, 20, 21, 29, 30, 33, 36, 39-41, 48, 53, 55, 58, 60, 63 and 64 remain pending in the application. Reconsideration of the pending claims and allowance of the application in view of the present response is respectfully requested.

Claims 1, 13, 18, 20, 33, 36, 39, 48, 53, 55, 60 and 63-64 are rejected based on 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Publication No. 2004/0220624 by Ritscher et al. (hereinafter “Ritscher”) in view of U.S. Patent No. 7,031,773 to Levine et al. (hereinafter “Levine”) in view of U.S. Patent No. 4,686,987 to Salo et al. (hereinafter “Salo”). Claims 4, 6, 21, 29-30, 40-41 and 58 are rejected based on 35 U.S.C. §103(a) as allegedly being unpatentable over Ritscher in view of Levine in view of Salo.

Applicant traverses these rejections at least because the combination of Ritscher and Levine fails to teach or suggest each of the claimed features. Applicant asserts that the cited combination does not include the claimed feature of “at least deriving an impedance measurement using the delivered stimulus, the stimulus having an energy insufficient to effect atrial capture” as recited in independent claims 1, 20, and 36.

The Office Action wholly fails to address the claimed feature that involves “deriving the impedance measurement using the delivered stimulus, the *stimulus having an energy insufficient to effect atrial capture*,” and merely cites a section of Levine that only teaches measuring an impedance. At the cited section of Levine (Column 12, lines 7-14 and 22-30), Levine merely states that “the impedance measurement circuit 102 is enabled and caused to measure the lead impedance if the bipolar pacing electrode configuration *during* the backup pulse.” Levine also states at column 10, lines 46-50 that “[i]f an evoked response is not detected (capture lost), the primary pacing pulse is followed, fifty to one-hundred milliseconds thereafter, by a backup pacing pulse at a higher energy to assure capture and contraction of the heart chamber” (emphasis added).

One of ordinary skill in the art would immediately understand that the backup pulse of Levine is a stimulus having an energy *sufficient to effect atrial capture*, which is in clear

contradiction to a “stimulus having an energy *insufficient to effect atrial capture*,” as is recited in Applicant’s independent claims 1, 20, and 36. Therefore, the Office Action’s reliance on Levine as purportedly teaching “deriving the impedance measurement using the delivered stimulus where the stimulus has an energy *insufficient to effect atrial capture*” is in error. For at least this reason, the obviousness rejections based on Levine cannot be sustained.

In the Response to Arguments section of the Office Action, it is contended that:

Ritscher teaches a system for controlling ATP therapy by detecting pro-arrhythmia criteria, disabling ATP therapy and then allowing the therapy to be re-enabled by an external controller (e.g., ¶¶ 5, 7, 11, 12). Ritscher discloses that one pro-arrhythmia criteria is lead dislodgement (e.g., ¶¶ 5). Ritscher teaches everything but fails to explicitly state that the system utilizes lead impedance to find lead dislodgement. However, Levine teaches that it is known to use lead impedance to detect lead dislodgment.

Applicant respectfully asserts that this characterization of Ritscher is in error, at least for the reason that Ritscher, like Levine, also fails to disclose use of “a stimulus having an energy *insufficient to effect atrial capture*,” in addition to failing to disclose “use of lead impedance to find lead dislodgement” as has been acknowledged by the Examiner. Ritscher discloses various techniques for detecting ventricular pro-arrhythmia. Each of these techniques involves detection of capture events (e.g., changes in R-R rate, changes in R-wave morphology or QRS width, and changes in P-R intervals). Each of Ritscher’s techniques for detecting ventricular pro-arrhythmia requires a ventricular or atrial capture event, which one skilled in the art would know can only result from a stimulus having an energy sufficient to effect capture.

Accordingly, neither Levine, Ritscher nor any combination of these and other asserted references teach or suggest all features of Applicant’s independent claims 1, 20, and 36. Because all features of independent claims 1, 20, and 36 are not taught or suggested by the asserted combination of references, independent claims 1, 20, and 36 are patentable over the asserted reference combinations.

Furthermore, Applicant reasserts the arguments made in the Office Action Response dated June 23, 2011 regarding claims 21 and 58. The Response to Arguments section of the Office Action does not address Applicant’s earlier-made arguments regarding these claims. Applicant respectfully asserts that Applicant’s specification clearly discloses “one or more of an

advantage, use for a particular purpose, or a solution to a stated problem which is achieved by detecting an ambiguity in the impedance, capture threshold, and sense amplitude deviations.”

Applicant respectfully submits that the Office Action is defective in that the scope and content of the prior art has not been accurately determined by the Office Action. Errors in the Office Action’s characterization of the asserted references presented in the Office Action are described above. The defective characterization of the prior art teachings in the Office Action renders the differences between the prior art and the claims at issue unascertained. For at least these reasons, the Office Action’s conclusion of obviousness is erroneous and unsustainable.

Applicant respectfully submits that the combination of Ritscher and Levine fails to teach or suggest several features of the rejected claims as discussed above. For at least these reasons, independent claims 1, 20, and 36, and all claims depending therefrom, are patentable over the combination of Ritscher and Levine. Applicant respectfully requests withdrawal of the rejections of all pending claims and submits that all claims are in condition for allowance.

To the extent that Applicant has not responded to any characterization by the Examiner of the asserted art or of Applicant’s claimed subject matter, or to any application by the Examiner of the asserted art to any claimed subject matter, Applicant wishes to make clear for the record that any such lack of response should not be interpreted as an acquiescence to such characterizations or applications. A detailed discussion of each of the Examiner’s characterizations, or any other assertions or statements beyond that provided above is unnecessary. Applicant reserves the right to address in detail any such assertions or statements in future prosecution.

Authorization is given to charge Deposit Account No. 50-3581 (GUID.014US01) any necessary fees for this filing. If the Examiner believes it necessary or helpful, the Examiner is invited to contact the undersigned attorney to discuss any issues related to this case.

Respectfully submitted,

HOLLINGSWORTH & FUNK, LLC  
8500 Normandale Lake Blvd., Suite 320  
Minneapolis, MN 55437  
952.854.2700

Date: May 17, 2012

By: /Rebecca F. Davis/

Rebecca F. Davis  
Reg. No. 65,428

By: /Mark A. Hollingsworth/

Mark A. Hollingsworth  
Reg. No. 38,491